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## Article

### Technological fluency in the vision of tutors and its challenges

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#### ABSTRACT

This work presents a proposal of study on the technological experience of distance tutors, also known as technological fluency, founded by experts of Distance Education in current context. Its aim is to identify, analyze and understand the basic knowledge of distance tutors, focusing on technological fluency, which includes technical, practical and emancipatory fluencies. For that, a case study in a private educational institution has been done, in which an online questionnaire was applied to 24 tutors of a distance graduation course. According to the results, the respondent tutors have technological experience (technical, practical and emancipatory fluencies), however, regarding the emancipatory fluency, it was seen that they do not have autonomy in decision-making and they do not have another way of communication with students beyond the platform itself and e-mail. Concerning suggestions and criticisms, it was verified that tutors are concerned about spreading their knowledge about new technologies, since technology is constantly changing. In that way, it is necessary a permanent training of online tutors so they can use these new technologies with authority in the practice of the distance tutorial.

**Keywords:** Distance tutorial. Challenge. Training. Technical fluency.

#### RESUMEN

Este trabajo presenta una propuesta de estudio acerca de la experiencia tecnológica de los tutores a distancia, denominada también fluidez tecnológica, fundamentada por estudiosos de la Educación a Distancia en el contexto actual.

Tiene por objetivo identificar, analizar y comprender las competencias básicas de los tutores a distancia, centrándose en la fluidez tecnológica que abarca la fluidez técnica, la práctica y la emancipatoria. Para ello, se ha realizado un estudio testigo en una institución de enseñanza privada, donde se aplicó un cuestionario “on line” dirigido a 24 tutores de un curso de graduación a distancia. De acuerdo al resultado, los tutores encuestados poseen experiencia tecnológica (fluidez técnica, práctica y emancipatoria), sin embargo, en lo que atañe a la fluidez emancipatoria, se observó que ellos no poseen autonomía en la toma de decisiones y además no tienen otra forma de comunicación con los alumnos más allá de la misma plataforma o del

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e-mail. En relación a las sugerencias y críticas, se verificó que los tutores, están preocupados en la difusión de conocimientos sobre las novedades tecnológicas, ya que estas están en permanente transformación. De ese modo, se hace necesaria una capacitación constante de los tutores “on line” para que puedan utilizar con autoridad dichas nuevas tecnologías en la práctica de la tutoría a distancia.

**Palabras clave:** Tutoría a distancia. Desafío. Capacitación. Fluidez técnica.

## RESUMO

Este trabalho apresenta uma proposta de estudo sobre a competência tecnológica dos tutores a distância, também denominada de fluência tecnológica, fundamentada em estudiosos da Educação a Distância no contexto atual. Visa identificar, analisar e compreender as competências essenciais dos tutores a distância, com foco na fluência tecnológica que engloba as fluências técnica, prática e emancipatória. Para isso, foi realizado um estudo de caso em uma instituição de ensino particular, onde foi aplicado um questionário *on-line* para 24 tutores de um curso de graduação a distância. De acordo com os resultados, os tutores respondentes possuem domínio tecnológico (fluência técnica, prática e emancipatória), entretanto, no que tange à fluência emancipatória, observou-se que eles não possuem autonomia na tomada de decisões e não mantêm outros meios de comunicação com os estudantes, além da plataforma e do e-mail. Em relação às sugestões e críticas, verificou-se que os tutores estão preocupados com a difusão do conhecimento sobre as novidades tecnológicas, na medida em que as tecnologias estão em constante transformação. Assim, faz-se necessária uma capacitação constante dos tutores *on-line* para que eles possam utilizar com autoridade essas novas tecnologias na prática da tutoria a distância.

**Palavras-chave:** Tutoria a distância.

Desafios. Capacitação. Fluência técnica.

## INTRODUCTION

The Distance Education (DE) is a type of education mediated over the use of Digital Technologies of Information and Communication (TDIC), in which the tutor has the role of online teaching, mediating the process of teaching students' learning. This mode is expanding and can facilitate the access to quality education, as long as those responsible are involved and directed in the planning and development of teaching strategies adapted to the virtual environment.

Among those responsible for the teaching-learning process, there is a professional of great importance: the virtual tutor. It acts as moderator and facilitator of the process, encouraging and instigating students to develop autonomy in studies and enjoy the best as possible, the content covered during the distance studying process.

According to Cunha (2009), the distance tutor must develop the following core competencies: social-affective, self evaluated, managerial, technological and pedagogical, in order to contribute to learning, according to the cognitive and practical models. They impact the teaching-learning process, because they are able to align the knowledge, skills and attitudes.

Regarding technological competence, Schneider (2012, p. 84) ranks the technical, practical and emancipatory fluencies. This competence requires the tutor time and dedication in each stage, in which it must consider all aspects that impact the teaching-learning process.

Rosas and Behar (2015, p. 89) argue that with the "advent of free software, broadened the possibilities of use" of these teaching resources in all educational modalities, from face-to-face, semi or even fully distance

education. In this context, the use of digital technology impacts the performance of the tutorial function, since it is directed according to the needs of each student.

So, for that mediation is effective, the tutor must have in their professional practice technological expertise, demonstrating skill in the use of Information and Communication Digital Technologies in order to create an interactive and collaborative virtual learning environment.

In this context, the objective of this study was to analyze the essential technological skills of the tutor and propose solutions to the challenges faced by tutors that it reaches excellence in their duties.

## 1. TECHNOLOGICAL COMPETENCES OF DISTANCE LEARNING TUTOR

The role of the distance learning tutor is no different and much less lower than the classroom courses teachers. In distance education, the tutor acts as a guiding agent of the construction of the student's knowledge and even their self-learning, which is important for the graduation.

This professional virtually guides the student and the program content of the course, accompanying him throughout the process of teaching and learning (SANTOS, 2015). The tutors selection announcements characterize them "as an expert in the area of knowledge that will actuate" as well as someone who will "monitor the development of the activities and identify the difficulties and the progress of students" (SANTOS, 2015, p. 39).

A good tutor must create proposals for activities for reflection, suggest alternative sources of information, explanations, facilitate understanding processes; that is, to guide, oversee, promote the realization of activities, provide new sources of information and to

promote understanding. Many students drop distance courses because they don't see in their tutors the necessary help to continue the course.

The professional of distance education assumes many responsibilities and functions in distance education, getting highlighted the educational mediation, as this professional has direct contact with students (SANTOS, 2015, p. 37).

It is understood professional profile as a set of core competencies for the development of a job. In the case of tutor, it is essential that it has a range of skills and abilities, among them the use of new technologies of information and interaction. However, the ability is not limited to use, but extends to the way it will resource utilization. The tutor should be skilled in placing the words that will mediate between student and learning through technology and know tools to distinguish the appropriate resource, as well as the ideal time for each type of communication (SANTOS, 2015, p. 48).

When it comes to technological fluency in online tutoring, stands the theme Virtual Learning Environment (VLE), which is the virtual space where happen exchanges of experience and sharing study material of an online course. In addition, the VLE, there are interactions between students and tutors and between students and students, through different synchronous and asynchronous tools, which are of paramount importance to develop the relationship student / tutor and evoke the feeling of belonging to the group.

VLEs should be planned taking into consideration that students need to be encouraged to interact and collaborate to establish more complex levels of essential cognitive flexibility in the construction of knowledge (MALLMANN et. al., 2012).

For this purpose the environment must possess technological resources to enable such interaction and cooperation. However, not enough to have an environment equipped with technologies, the tutor know not explore the tools available in it. According to Rosas and Behar (2015, p. 89), the technological competence should be explored because the advent of software entails the expansion of educational resources in all educational modalities.

In this context, the technological competence requires the tutelary action the field of Digital Technologies of Information and Communication (TDIC), as well as use and instruct students in the basics, if not, direct to the relevant department for appropriate action.

Tractemberg and Filatro (2013) consider examples of technological skills in the mentoring context: use masterfully the different tools available in the virtual environment; employ different technologies to support the participation of learners and guide them clearly and objectively about the proper use of the virtual learning environment.

The primary technological skills according to Behar (2013, p 57) are:

- a) Computer literacy, which refers to the criticality of information and the use of digital technologies;
- b) Cooperation enhanced by social interaction that occurs mainly in VLE;
- c) Social presence in the way the individual of distance education is perceived immersed in virtuality;
- d) Autonomy in decision-making;
- e) Organization of space and communication or ways of expression through technology.

Thus, the digital literacy is related to the use and critique of filtered information. The enhanced cooperation relates to the interaction in the virtual environment. Thus, social presence is the perception of the individual in the "virtuality", making it autonomous when making decisions; providing management and organization of time and increased communication.

Technological fluency permeates the technical influences, practical and emancipatory (SCHNEIDER, 2012, p. 84). The technical fluency refers to the knowledge of the tools, while the digital practice requires skill. The emancipatory refers from attitudes and sharing knowledge and technological skills.

Schneider (2012) listed the skills required by tutors to achieve technological fluency. According to the author, technical fluency is related to the ability to use the computer, learn new ways to use the computer and use multiple programs and tools. Since the practical fluency involves developing the ability to create and solve activities with the computer, to understand all that can be created with a given tool and create activities based on their own ideas. On the other hand, the emancipatory fluency includes the ability to use technology to contribute to the community on the Internet, modify and extend study activities created by others, use the concepts learned in the activities in other educational contexts.

Thus the exploitation of technological resources, by the tutor, enhances the interaction, collaboration and interactivity on the steps of the construction of knowledge.

## 2. METHODOLOGY

The methodological procedure consisted of a case study to verify the perception of virtual tutors of technological challenges in the tutorial action. Applied to an online questionnaire to 24 tutors, of both sexes, specialists and master's or, in the morning and evening

periods of a private higher education institution, located in the city of Santos, São Paulo.

The degree in Accounting was analyzed, which consists of eight semesters, distributed and made available in 48 subjects in virtual classrooms, with the average class size is 1,098, that is, about 366 students for each tutor. Course books are divided weekly, 16 video lessons, 32 lessons-text and materials and complementary links. The main tool to aid the teaching-learning process is the evaluation and not evaluative forum, while the questionnaire is used for verification of learning and interdisciplinary activity. The evaluation is carried out in two stages: one distance and one in person.

As a method, this work was carried out through indirect observation, because we used a questionnaire drawn up in Google Drive. The questionnaire contained 35 questions, which are: 31 closed questions with multiple choice answers, two open questions and a field for suggestions and criticism. We used a Likert response scale of five points, ranging from totally agree (5) strongly disagree (1), which allowed a quantitative analysis

of the responses. Data were converted into graphs and compared.

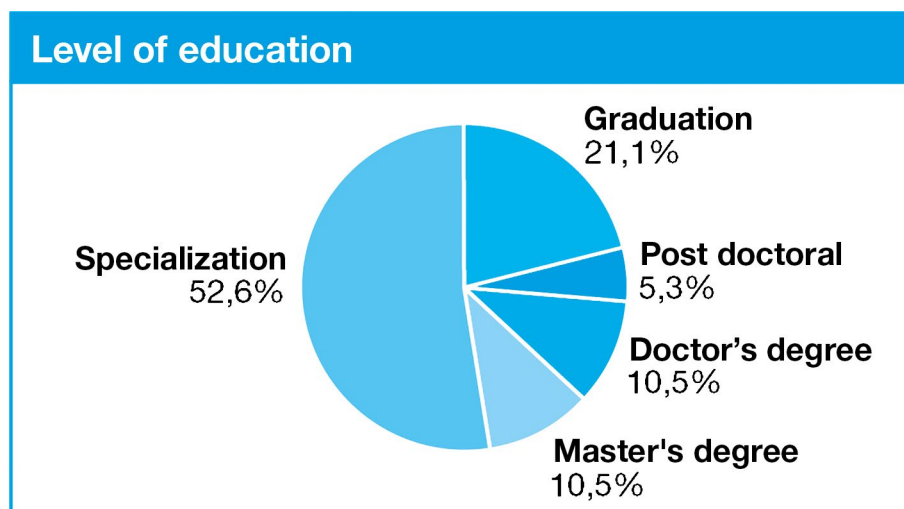
### 3. RESULTS AND DISCUSSION

About tutoring profile and working conditions, to analyze the results obtained in the research, it was found that the majority (68.4%) of the course tutors have 1-2 years experience in tutoring time area on-line and 63.2% of them are female.

For occupational characteristics, 57.9% meet the working day in the institution itself and not at home, 89.5% are employed full time and 10.5% are hourly. As for working hours, 52.6% work about 30 hours per week, 10.5% work less than 20 hours per week and the rest works 20 or 40 hours per week.

In Chart 1 shows the level of education of the tutors. Much of the tutors (52.6%) have specialization course, which indicates that this professional considers its important academic background. In addition, the majority (76.5%) have another source of income, which suggests that tutoring serves as a salary supplement these professionals.

**Chart 1:** Level of education



Source: Prepared by the authors on 18/12/2015.

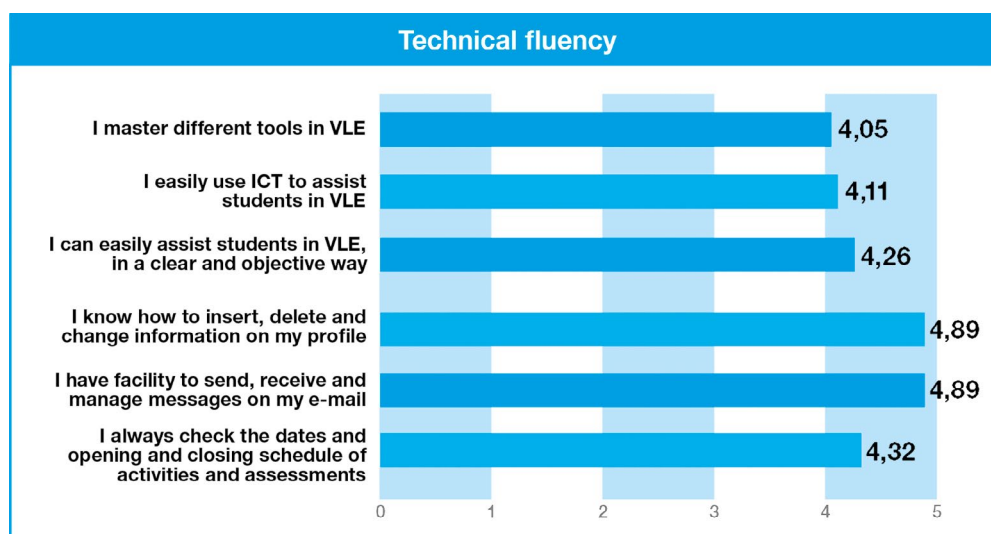
The following charts are related to the perception of the tutor of the activity that it develops in tutoring.

According to Chart 2, respondents tutors have technical field as the average of the tutors level of agreement for questions on technical fluency tended to 5 (strongly agree). According to Schneider (2012, p.80), the technological fluency is critical to exercise "a

catalytic effect in practice, that is, when the tutor acquires fluency, increase susceptibility to learning and sharing solutions."

This result indicates that tutors have ease with virtual platform and tools. strong and considerable extent, that tutor-student, student-student, teacher-tutor dominate and communicate clearly and objectively using the Virtual Learning Environment.

**Chart 2:** Average of responses from tutors as technical fluency, the scale used ranged from 1 (strongly disagree) to 5 (strongly agree)



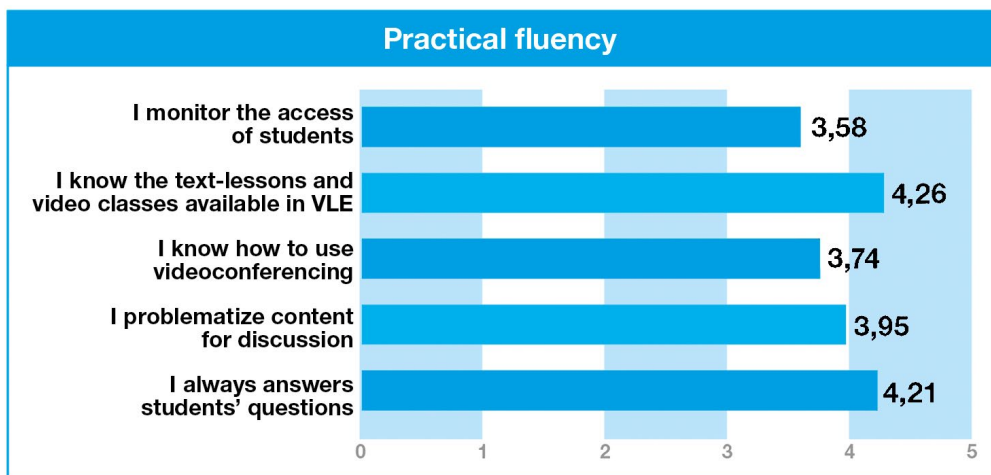
Source: Prepared by the authors on 18/12/2015.

Furthermore, the practice fluency (Chart 3), draws attention to "I know the text-lessons and video classes available in the room" and "I can solve the doubts of the students", in which the average of the responses tended to 5 (strongly agree). It is noticed that the tutors

dominate the content of disciplines and are safe about it. While "monitor access reports of students", which is a basic requirement in the

tutorial action, reached 3.58 on the scale. But the use of videoconferencing and the questioning of the content for discussion tended to 4 (strongly agree). According to these results, it is observed that the tutors surveyed also have practice fluency, because according to Schneider (2012) to practical fluency involves understanding the possibilities of a given tool, discuss content to study, monitor students and answer their questions.

**Chart 3:** Average of responses from tutors related to practical fluency, the scale used ranged from 1 (strongly disagree) to 5 (strongly agree)

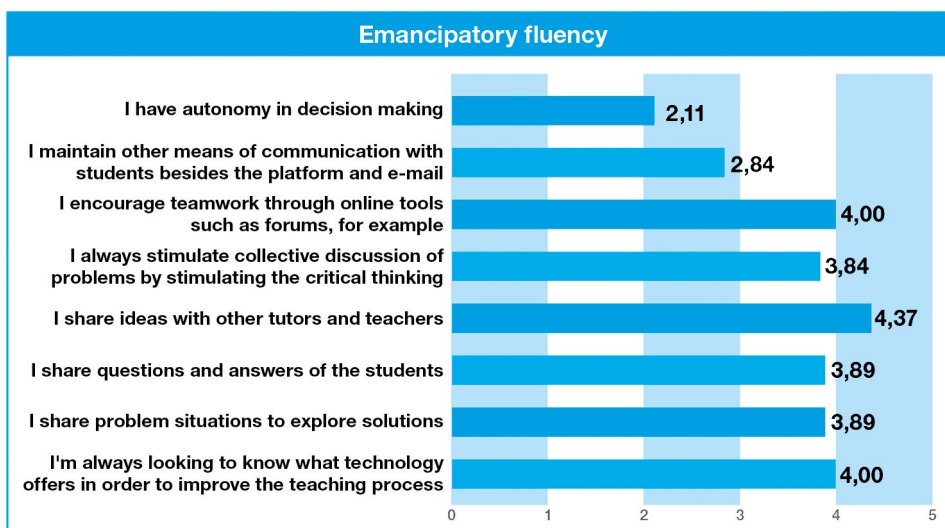


Source: Prepared by the authors on 18/12/2015.

According to the answers of the questionnaire about the emancipatory fluency (Chart 4), it is observed that the average of the responses to "I share ideas with other tutors and teachers" tended to 5 (strongly agree). This demonstrates that the tutors believe that the exchange of ideas is very important for the action of tutoring. In addition, most agree that

they are always looking to know what technology offers to improve the teaching-learning process. Garcia et. al. (2011, p. 85) also argue that "the teacher must understand the new mass communication technologies, and know how to interpret them as capable of enhancing the interaction tools between people."

**Chart 4:** Average of responses from tutors on the emancipatory fluency, the scale used ranged from 1 (strongly disagree) to 5 (strongly agree)



Source: Prepared by the authors on 18/12/2015.



However, the average for the question "I have autonomy in decision-making" tended to disagree (2.84), which means that tutors do not feel solely responsible for actions in the VLE, probably because the course already has a pedagogical proposal in which the tutor must follow what was told to them by the course coordinator. Regarding stimulate collective discussion, the answer tended to 4 (agree), which means that the tutors consider important the exchange of ideas and experiences among students. Such finding corroborates Vidal and Silva (2010), who consider it as an important point in the function of the mentor creating spaces for collective construction of knowledge.

In the present investigation, when analyzing the responses, it is observed that the average level of agreement for questions on stimulating teamwork, sharing questions and problem situations tended to 4 (partially agree), since the tutors consider these actions noticeable in daily life that mentoring model. However, the average for the question of maintenance "of other media, as well as e-mail platform" tended to disagree (2,11) on the scale, which means that the majority does not use other media in addition to the room virtual class.

Regarding the open question about criticism and suggestions, the main responses obtained were selected:

"The institutions should rely on a group of specialized support in new technologies to spread knowledge in the approximate ratio of the speed at which technologies become";

"It would be interesting new platforms that could make more human and close to the student's education. Allowing work to quality education. "

In this regard, it may be suggested that the host humanizes the learning process,

making it the closest and sense of belonging of the group students. And technological resources should be exploited by tutors seeking to arouse students' interest.

As proposed solutions complementary to the challenges encountered, it is suggested that the educational institution offering initial training and frequent training, for example, workshops or seminars for each new version of education and regular meetings platform to process the reflection because the tutor inflexibility inhibits their professional development.

The selection of distance education students must have specific criteria for information and the institution may offer a VLE startup module. Moreover, as the massification prevents the quality of mediation, the institution must maintain level the number of tutors to the number of students.

Given the above, the tutors who participated in the survey consider the lack of continuous training as the main factor of lack of technological expertise.

## CONCLUSION

In this research it was found that most tutors have one to two years of operation time in the online tutoring area, it is female and has a specialization course, which indicates that this professional considers their education important. Furthermore, it was found that tutors know digital tools and possess skills and attitudes to them, demonstrating that have technical, practice and emancipator fluency. That's because the average level of agreement for questions on these matters ranged from 3.58 to 4.89 on the Likert scale, where 1 means strongly disagree and 5 strongly agree.

Only the questions "I have autonomy in decision-making" and "I stand by other means of communication with students, as well as platform and e-mail" received a low average (2.84 and 2.11, respectively), which means



tutors miss for greater autonomy in the course and restricted to virtual and e-mail platform, without stimulating the use of social networks, for example.

According to the tutors who participated in the survey, the lack of training is the main blocking agent of technical fluencies, practical and emancipatory because the time delay is notorious (instantaneous) in updates of the versions of the software, specifically in the Virtual Learning Environment.

This result may be related to the tutoring management policies and factors such as the lack of investment by the educational institution in technological training of tutors, or the provision of a group of specialized support in new technologies to spread knowledge in proportion approximate the speed at which they turn. Since the tutors have interests about updates.

As a solution to this major challenge faced by survey participants on technological skills, it is proposed the implementation of a continuous training program for online teachers.

The training of professionals is the necessary tool to contribute to an efficient and effective tutoring, and to the attainment of excellence in developed activity. Added to this, the tutor must use the technological resources geared to the needs of students, encouraging them to interact with the group to achieve the educational effectiveness.

The matters discussed herein may be investigated in further studies, because they create opportunities for further work applied to other private or public institutions, especially those with the tutoring system of distance.

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